

ISO 22000 standard implementation: Benefits, Motivations and Obstacles

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ABSTRACT

Purpose - The aim of this paper is to evaluate benefits, motivations, and obstacles of the implementation of ISO 22000 in the food industry and do a comparative relation in multiple countries. The study identifies the main difficulties faced by companies during the adoption process and the benefits found on their overall satisfaction with ISO 22000.

Design/methodology/approach - A research was performed to identify the existence of studies about difficulties and benefits of ISO 22000 implementation. The literature review resulted in the selection of studies about the Food Safety Management System (FSMS) in different countries, with special focus on ISO 2200 implications.

Findings - There are several benefits that companies can obtain from having an implemented and certified FSMS. It is possible to observe similar benefits when ISO 22000 is implemented. The difficulties to the implementation of ISO 2200 were identified by all companies, however they demonstrated to be pleased with the benefits (internal and external) of the certification.

Research limitations – A small percentage of papers were found about the ISO 22000 implementation. Most case studies focus on Food Safety without a specific focus on ISO 22000.

Originality/value - The studied papers comprised certified companies and analyzed benefits and obstacles of the implementation of ISO 22000, including representatives of all links in the Food Chain.

Keywords: Benefits, Food security, Obstacles, FSMS, ISO 22000

Paper type Literature review

INTRODUCTION

The aim of this study is to compare the benefits, motivations and obstacles of the ISO 22000 implementation in different countries. The general context of Food Safety Management System (FSMS) is approached on the next chapter, Literature Review, where the stakeholders' concern about food safety during all the stages of food chain is described. The methodology section presents the research method, the analyzed countries and the characteristics of the questionnaire used by them. The results and discussion describe the several motivations, benefits and obstacles for the different analyzed countries during Food Safety (FS) certification. The final section, conclusion, presents the common aspects between the analyzed countries. On this section the difficulties to find studies that focus on ISO 22000 were mentioned.

LITERATURE REVIEW

Food safety (FS) is related to the presence of hazards in food at the time of its consumption. It is essential the existence of a proper control during the food chain production because hazards can occur at any stage of production. Therefore, FS is ensured by the efforts of the several parts that integrate the food chain (ISO 22000:2018). The food safety and the food security are a global concern, not only because of the public health, but also because of the impact on the international commercial trade (Escanciano & Santos-Vijande, 2014). Due to the necessity to be competitive with other countries for international trade in food, most of developed and developing countries are removing the trade barriers, such as quotes, and applying more rigorous measures to ensure the FS (Mensah & Julien, 2011). The FSMS has been used as a tool by the producers to traceability and track of the products to ensure the FS (Chaoniruthisai, Punnakitikashem, & Rajchamaha, 2018). When it comes to FS regulation, consumer safety is the essential key. Controllers must be aware of FS risks on consumers and the cost implications of the implementation without compromising consumer safety (Mensah & Julien, 2011).

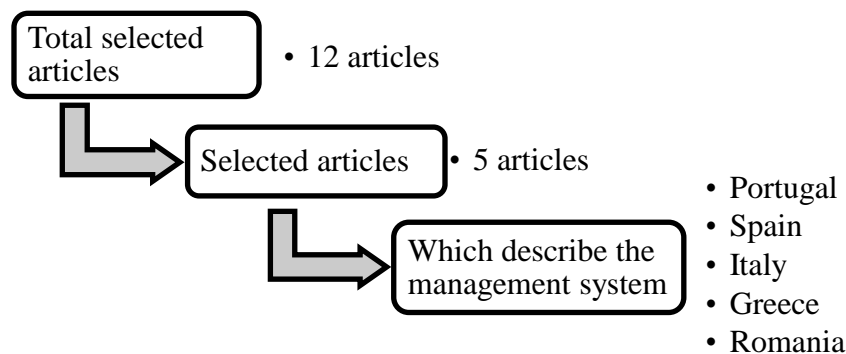
The implementation, the achievement and the application of a certified system is a time-consuming process that presents benefits but also involves several obstacles. Numerous studies identified the obstacles that companies had to go through to implement a certified system. This difficulty involves both internal and external factors, and it depends on the country or the size of the company (Chaoniruthisai *et al.*, 2018). Some of the pointed complications were the “inefficient validation and verification of the HACCP plan” (Teixeira & Sampaio, 2011), “high cost of development and

implementation” (Escanciano & Santos-Vijande, 2014) and “internal resistance to change” (Păunescu, Argatu, & Lungu, 2018).

There are several benefits to implement a certified system and there has been an increasing number of standards that promote FS, these included the British Retail Consortium’s global food safety standard (BRC), the International Food Standard (IFS), the Dutch Hazard Analysis and Critical Control Point (HACCP), the Safe Quality Food (SQF) 2000 Level 2 (Mensah & Julien, 2011) and the ISO 22000:2018. According to Escanciano and Santos-Vijande (2014) the implementation of ISO 22000 can reduce the misinformation among producers and consumers, and still provide a competitive advantage to certified companies promoting their access to new customers and markets. The image improvement, the increase of consumers’ confidence and the prevention of food poisoning with the achievement of market differentiation were the most common reasons for the adoption of ISO 22000 (Păunescu *et al.*, 2018).

RESEARCH METODOLOGY

For the accomplishment of this literature review article several publications were consulted. The aim of this review is to understand the benefits, motivations and difficulties of ISO 22000:2005 implementation by different countries:



To understand which obstacles are faced by companies looking for ISO 22000:2005 certification and the benefits that were appreciated after the standard adoption each company was contacted via phone and/or email. It was asked to the company employees to answer a questionnaire using a Likert scale in order to assess the agreement regarding the benefits and difficulties of implementing ISO. The Likert scale used reveals a distinct range of scores.

RESULTS

Benefits

Companies may have many reasons to implement and certify their food safety management systems since this process results in several potential benefits. The implementation and certification of an ISO 22000 FSMS is a source of benefits to the company (Table 1). Some are external, linked to commercial advantages, communication, and competitiveness in the market and others internal – organizational.

The benefits of ISO 22000 implementation in Portuguese inquired companies reveal “Improvement of food safety methodologies, and management system related documentation” and “Improvement of customers and other interested parts satisfaction”. The respondents of Portugal food companies verified that the most relevant benefits were about internal factors (Teixeira & Sampaio, 2011).

The study of ISO 22000 implementation by Spanish companies listed a total of 29 benefits. The results represent the valuations that respondents made of the extent and how their companies have obtained these benefits. For these companies the main benefits were those facilitating compliance with legislation and those representing various improvements. The latter were both internal (“Better management/control of food hazards”, “Better emergency response”, “Improved product quality and safety”, and “Improving workers’ level of training”) and external (“Improved image in the market” and “Increased customer confidence”). However, the commercial benefits recorded the lowest score, even though they are usually associated with the possession of FS certification (Escanciano & Santos-Vijande, 2014).

The study developed in Greek food companies reveals that the most important reason for ISO 22000 certification was the control and increase of safety and hygiene on food products. Company managers wanted to offer secure products to achieve customer satisfaction and expectations. In general, it was agreed that company protection was a reason for the ISO implementation. All participants considered certification as a promotional and marketing tool (Mamalis, Kafetzopoulos, & Aggelopoulos, 2009).

For the Romanian companies the study reports that key benefits were obtained by FS improvement, such as reduction of illness and other risks arising from food, improvement of consumers’ confidence, improvement of customers and stakeholders’ satisfaction, followed by improvement of sales volumes (Păunescu *et al.*, 2018).

The study based on Italian companies classified the benefits from ISO 22000 certification into three main categories: benefits related to market, technical management aspects and those related to regulatory aspects. The major benefits were the improvement of product safety and traceability of products. The increase of communication in the food chain also revealed to be an important benefit. On the other hand, improving productivity seems not to be a significant benefit of ISO 22000 application. The results also revealed a positive correlation between company size and a higher rate of satisfaction derived from ISO 22000 application, consistent with the other studies (Casolani, Liberatore, & Psomas, 2018).

Table 1 Benefits from ISO 22000 implementation in Portugal, Spain, Greece, Romania and Italy.

Portugal	Spain	Greece	Romania	Italy	Factor	Group
Improvement of food safety methodologies	Better management/control of food hazards	Improvement of management system	Improvement of food safety and hazard control	Improvement of quality management system	Improved food safety	Internal
Food safety improvement	Continuous improvement of food safety		Reaching continuous improvement			
Increase of the products shelf time	Improvement of product quality and safety	Improvement and control the level of safety and hygiene on food products.	Product quality enhancement and of the production processes	Improvement the product safety		
	Greater worker participation in FS management					
Improvement of the employee's skills	Improvement of workers' training level	Employee training and experience improvement				
	Better emergency response				Commercial benefits	External
	Facilitates compliance with food safety legislation		Adapt to the legal framework established to ensure food safety	Respect the Food Safety legislation		
	Increase of exportation					
	Access to foreign retail chains					
	Private (distributor) label manufacturing					
Access to new markets	Access to new geographical markets			Improve the capacity to access the European and International markets	Commercial benefits	External
	Increase market share			Possibility to increase market share		
Sales volume improvement	Increase sales				Internal efficiency	Internal
	Better use of time and/or resources			Documentation improvement		
Production costs reduction	Improvement of productivity	Reduce the operational cost		Internal processes and procedures improvement		
	Better coordination with suppliers			Improve the traceability of products		
	Fewer incidences					
	Fewer customer claims and complaints				Internal efficiency	Internal
	Internal communication improvement					

Portugal	Spain	Greece	Romania	Italy	Factor	Group
Consumers' confidence improvement	Increase customer confidence	To enhance the firm's reputation		Improve the consumers' image of the firm	Improved competitive position	External
	Competitive advantage					
Corporate image improvement	Improve image in the market	Market requirements	Advance of the company's market position	Improve the firm's image in the commercial market		
Improvement of customers satisfaction	Increase customer satisfaction	To achieve customer satisfaction and meet customer expectations	Minimizes the probability of customer dissatisfaction and product flaws.	Improvement of customer satisfaction		
	Attract new customers			Facilitate the access to new customers and markets		
	Improve the relationship with health authorities			Provide guarantee regarding Food Safety with official Authorities		
Improvement of the relationship with the society	Improve communications with stakeholders		Use a standardized language that makes an effective link between them and their stakeholders: customers, suppliers, distributors and health institutions	Increase the communication in the food chain	Improved communication	External
	Fewer customer audits			Reduce the number of audits		
	Acquisition of more up-to-date equipment and technology				Technological improvement	Internal
	Improvement of the firm's facilities					

Motivations

Portuguese food companies' motivations for ISO 22000 certification were from internal nature. The most common ones were "To guarantee the confidence of the consumers", "Customers requirement", "Market differentiation" and "Involvement and commitment of the food chain in the product safety". For the Portuguese food companies the main motivation is the improvement of consumers' confidence (Teixeira & Sampaio, 2011).

Păunescu *et al.* (2018) identified that the main reasons for the reluctance to implement ISO 22000 in Romanian food companies were the lack of information, the costs involved and the demanding of a certification system. However, the main mentioned motivations to implement a certified system were the assured confidence of the consumers, the prevention of food hazards and the improvement company image.

In Greek food companies the participants indicated several reasons to implement a certified ISO system. Among the reasons, it stands out the control of safety on food products, the guarantee of a safe product and the improvement of the management system (Mamalis *et al.*, 2009).

The studies about Italy and Spain did not analyze the motivations of ISO 22000 implementation. Escanciano and Santos-Vijande (2014) pretend to identify the motivations to the implementation and subsequent certification of an FSMS in future work. However, this study pointed as reasons for an FSMS implementation the quality and safety of food products, the reinforcement of competitive position and the access to new marketers. Casolani *et al.* (2018) pointed internal and external reasons and that the implementation of a FSMS is a complex process.

Obstacles

The implementation of a FSMS is a process that is related to some difficulties detected by companies. Indeed, all the mentioned studies about ISO 22000 implementation refer the obstacles that companies face when they decide to undertake the process (Table 2).

The study performed for Portuguese food companies present as the most important difficulties factors like "Internal resistance to change", "Food safety management system implementation costs" and "Employees qualification" (Teixeira & Sampaio, 2011).

The Spanish study listed a total of 16 potential obstacles that may impede the implementation of the ISO 22000 standard. All the companies described difficulties and this result can be explained by the major presence of small firms in the sample which usually show issues to adopt quality standards. The analysis of the results also confirms that companies that are not ISO 9001 certified experiment greater difficulties to implement ISO 22000 (Escanciano & Santos-Vijande, 2014).

For the 20 catering companies in Greece the most important barrier of ISO 22000 implementation is the lack of employee training. Employees are not interested in implementing the necessary rules of hygiene. There is a lack of motivation while the supervision is not always efficient. Also, the time and effort are crucial parameters as most of the staff are part time employees and work seasonally (Mamalis *et al.*, 2009). Small producers are not certified with ISO 22000, so they cannot supply the enterprises with certified products.

Romanian companies state that the obstacles that should be prudently considered in ISO 22000 implementation were the employees' qualification, costs associated with the FSMS implementation and legal requirements, followed by internal opposition to change (Păunescu *et al.*, 2018).

Analogous to the literature, food Italian companies expose barriers to ISO 22000 implementation; the dominant issues were about the cost for certification, slower procedures, and lack of international consumer expectation (Casolani *et al.*, 2018).

Table 2 Obstacles from ISO 22000 implementation in Portugal, Spain, Greece, Romania and Italy.

Portugal	Spain	Greece	Romania	Italy	Factor
Lack of top management commitment	Weak commitment of management		Difficulty imposed by the managerial level, technical aspects and constraints within the organization.	Requires a different organization	Organizational resistance
Internal resistance to change	Top management's resistance to change		Inexistent involvement and responsibility from the management part		
Lack of employees' motivation and involvement	Staff's resistance to change (lack of motivation)	Lack of training of Employees (employees are not interested in implementing necessities rules of hygiene)	Employees' skills and reluctance to change	Adequate staff training	
	Communication difficulties within the firm		Communication issues at the company's level		
Difficulty in the use of the food safety management system tools and methodologies	Difficulty workers have in accepting and adapting to the system	The food workers often lack interest and they often have a negative attitude toward food safety programs			
Time limitation	Excessive demands on time and resources	Time and effort to develop and implement the certification	Constraints imposed by time insufficiency	Slower procedures	Bureaucracy and cost
	The volume of documentation required	Excessive volume of Paperwork	Large number of documents needed		
Food safety management system implementation cost	High cost, financial constraints	Cost of Prerequisite programs		Cost for certification	
	Excessive formalism Insufficient financial aid				
	Standard unrecognized by consumers and customers		No well-known standard	Lack of international consumer expectations	Unfamiliarity
Legal requirements	No legal requirement on the part of the government or public agencies				
Difficulty in the comprehension and interpretation of the standard requirements	Difficulty in interpreting the standard		Understanding and application of the ISO standard's procedures	Difficulty in understanding the procedure	

CONCLUSIONS

This literature review refers to the implementation of ISO 22000, the key benefits, motivations and obstacles in several countries, performing a comparative analysis between them. The study demonstrates that there are common factors among the countries for the implementation of standard ISO. The food companies from different countries reveal that size of firms and the existence of a previous certification influenced differently the application and the effect of the FSMS. Small and non-previous certified firms show more complications and barriers to the implementation of ISO.

The implementation of FSMS is a complex process and it was difficult to find quantitative studies that focus specifically on the ISO 22000 standard. Food companies must be conscious about the complications through the process however there are several benefits to the implementation of this certification. All literature reviewed infer that the implementation and certification of ISO 22000 provides consolidation and improvement of the FS chain. The main reasons for its adoption were to attain the consumer's confidence, guarantee food security procedures and improve the company image. ISO certification also can be used as a marketing tool to help several firms, to differentiate their products and build an advantage in the marketplace. Managers need to be motivated and involved in the process to perceive the role of ISO certification and understand the future advantages that this certification offers to their companies. The decision of applying a FS management system commonly reveals prevalent difficulties such as high costs, skilled employees and legal requirements. Despite the obstacles, ISO application in food firms showed that a big range of benefits are responsible to high levels of customers and stakeholders' satisfaction. The fact that the data are represented by personal opinions of managers and workers is a limitation of this study. It would also be interesting to know the point of view of companies that are no longer certified by ISO 22000. Likert scale used in the different analyzed studies reveal difficulties in data comparison; a distinct range of scores can demonstrate a lack of standard method.

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